

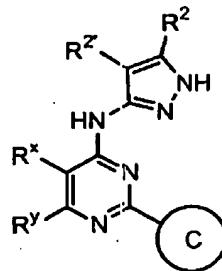
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IN THE CLAIMS:

Please replace all prior versions and listings of claims with the amended claims as follows:

Claim 1. (Previously presented) A compound of formula II:



II

or a pharmaceutically acceptable derivative or prodrug thereof, wherein;

Ring C is pyridinyl ring, wherein said Ring C has one or two ortho substituents

independently selected from $-R^1$, any substitutable non-ortho carbon position on Ring C is independently substituted by $-R^5$, and two adjacent substituents on Ring C are optionally taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-6 membered ring having 0-3 heteroatoms selected from oxygen, sulfur or nitrogen, said fused ring being optionally substituted by halo, oxo, or $-R^8$;

R^1 is selected from -halo, -CN, -NO₂, T-V-R⁶, phenyl, 5-6 membered heteroaryl ring, 5-6 membered heterocycl ring, or C₁₋₆ aliphatic group; said phenyl, heteroaryl, and heterocycl rings each optionally substituted by up to three groups independently selected from halo, oxo, or $-R^8$, said C₁₋₆ aliphatic group optionally substituted with halo, cyano, nitro, or oxygen, or R^1 and an adjacent substituent taken together with their intervening atoms form said ring fused to Ring C;

R^x and R^y are independently selected from T-R³, or R^x and R^y are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-8 membered ring having 0-3 ring heteroatoms selected from oxygen, sulfur, or nitrogen, wherein any substitutable carbon on said fused ring formed by R^x and R^y is substituted by oxo or T-R³, and any substitutable nitrogen on said ring formed by R^x and R^y is substituted by R^4 ;

T is a valence bond or a C₁₋₄ alkylidene chain;

R² and R^{2'} are independently selected from -R, -T-W-R⁶, or R² and R^{2'} are taken together with their intervening atoms to form a fused, 5-8 membered, unsaturated or partially unsaturated, ring having 0-3 ring heteroatoms selected from nitrogen, oxygen, or sulfur, wherein each substitutable carbon on said fused ring formed by R² and R^{2'} is substituted by halo, oxo, -CN, -NO₂, -R⁷, or -V-R⁶, and any substitutable nitrogen on said ring formed by R² and R^{2'} is substituted by R⁴;

R³ is selected from -R, -halo, -OR, -C(=O)R, -CO₂R, -COCOR, -COCH₂COR, -NO₂, -CN, -S(O)R, -S(O)₂R, -SR, -N(R⁴)₂, -CON(R⁷)₂, -SO₂N(R⁷)₂, -OC(=O)R, -N(R⁷)COR, -N(R⁷)CO₂(C₁₋₆ aliphatic), -N(R⁴)N(R⁴)₂, -C=NN(R⁴)₂, -C=N-OR, -N(R⁷)CON(R⁷)₂, -N(R⁷)SO₂N(R⁷)₂, -N(R⁴)SO₂R, or -OC(=O)N(R⁷)₂;

each R is independently selected from hydrogen or an optionally substituted group selected from C₁₋₆ aliphatic, C₆₋₁₀ aryl, a heteroaryl ring having 5-10 ring atoms, or a heterocyclyl ring, having 5-10 ring atoms;

each R⁴ is independently selected from -R⁷, -COR⁷, -CO₂(optionally substituted C₁₋₆ aliphatic), -CON(R⁷)₂, or -SO₂R⁷, or two R⁴ on the same nitrogen are taken together to form a 5-8 membered heterocyclyl or heteroaryl ring;

each R⁵ is independently selected from -R, halo, -OR, -C(=O)R, -CO₂R, -COCOR, -NO₂, -CN, -S(O)R, -SO₂R, -SR, -N(R⁴)₂, -CON(R⁴)₂, -SO₂N(R⁴)₂, -OC(=O)R, -N(R⁴)COR, -N(R⁴)CO₂(optionally substituted C₁₋₆ aliphatic), -N(R⁴)N(R⁴)₂, -C=NN(R⁴)₂, -C=N-OR, -N(R⁴)CON(R⁴)₂, -N(R⁴)SO₂N(R⁴)₂, -N(R⁴)SO₂R, or -OC(=O)N(R⁴)₂, or R⁵ and an adjacent substituent taken together with their intervening atoms form said ring fused to Ring C;

V is -O-, -S-, -SO-, -SO₂-, -N(R⁶)SO₂-, -SO₂N(R⁶)-, -N(R⁶)-, -CO-, -CO₂-, -N(R⁶)CO-, -N(R⁶)C(O)O-, -N(R⁶)CON(R⁶)-, -N(R⁶)SO₂N(R⁶)-, -N(R⁶)N(R⁶)-, -C(O)N(R⁶)-, -OC(O)N(R⁶)-, -C(R⁶)₂O-, -C(R⁶)₂S-, -C(R⁶)₂SO-, -C(R⁶)₂SO₂-, -C(R⁶)₂SO₂N(R⁶)-, -C(R⁶)₂N(R⁶)-, -C(R⁶)₂N(R⁶)C(O)-, -C(R⁶)₂N(R⁶)C(O)O-, -C(R⁶)=NN(R⁶)-, -C(R⁶)=N-O-, -C(R⁶)₂N(R⁶)N(R⁶)-, -C(R⁶)₂N(R⁶)SO₂N(R⁶)-, or -C(R⁶)₂N(R⁶)CON(R⁶);

W is -C(R⁶)₂O-, -C(R⁶)₂S-, -C(R⁶)₂SO-, -C(R⁶)₂SO₂-, -C(R⁶)₂SO₂N(R⁶)-, -C(R⁶)₂N(R⁶)-, -CO-, -CO₂-, -C(R⁶)OC(O)-, -C(R⁶)OC(O)N(R⁶)-, -C(R⁶)₂N(R⁶)CO-,

$-C(R^6)_2N(R^6)C(O)O-$, $-C(R^6)=NN(R^6)-$, $-C(R^6)=N-O-$, $-C(R^6)_2N(R^6)N(R^6)-$,
 $-C(R^6)_2N(R^6)SO_2N(R^6)-$, $-C(R^6)_2N(R^6)CON(R^6)-$, or $-CON(R^6)-$;

each R^6 is independently selected from hydrogen or an optionally substituted C_{1-4} aliphatic group, or two R^6 groups on the same nitrogen atom are taken together with the nitrogen atom to form a 5-6 membered heterocycl or heteroaryl ring;

each R^7 is independently selected from hydrogen or an optionally substituted C_{1-6} aliphatic group, or two R^7 on the same nitrogen are taken together with the nitrogen to form a 5-8 membered heterocycl or heteroaryl ring; and

each R^8 is independently selected from an optionally substituted C_{1-4} aliphatic group, $-OR^6$, $-SR^6$, $-COR^6$, $-SO_2R^6$, $-N(R^6)_2$, $-N(R^6)N(R^6)_2$, $-CN$, $-NO_2$, $-CON(R^6)_2$, or $-CO_2R^6$.

Claim 2. (Previously presented) The compound according to claim 1, wherein said compound has one or more features selected from the group consisting of:

(a) Ring C is a pyridinyl ring, optionally substituted by $-R^5$, wherein when Ring C and two adjacent substituents thereon form a bicyclic ring system, the bicyclic ring system is selected from an optionally substituted naphthyl, quinolinyl or isoquinolinyl ring;

(b) R^x is hydrogen or C_{1-4} aliphatic and R^y is $T-R^3$, or R^x and R^y are taken together with their intervening atoms to form an optionally substituted 5-7 membered unsaturated or partially unsaturated ring having 0-2 ring nitrogens;

(c) R^1 is -halo, an optionally substituted C_{1-6} aliphatic group, phenyl, $-COR^6$, $-OR^6$, $-CN$, $-SO_2R^6$, $-SO_2NH_2$, $-N(R^6)_2$, $-CO_2R^6$, $-CONH_2$, $-NHCOR^6$, $-OC(O)NH_2$, or $-NHSO_2R^6$; and

(d) R^2 is hydrogen and R^2 is hydrogen or a substituted or unsubstituted group selected from aryl, heteroaryl, or a C_{1-6} aliphatic group, or R^2 and R^2 are taken together with their intervening atoms to form a substituted or unsubstituted benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring.

Claim 3. (Previously presented) The compound according to claim 2, wherein:

(a) Ring C is a pyridinyl ring, optionally substituted by $-R^5$, wherein when Ring C and two adjacent substituents thereon form a bicyclic ring system, the bicyclic ring system is selected from an optionally substituted naphthyl, quinolinyl or isoquinolinyl ring;

(b) R^x is hydrogen or C_{1-4} aliphatic and R^y is $T-R^3$, or R^x and R^y are taken together with their intervening atoms to form an optionally substituted 5-7 membered unsaturated or partially unsaturated ring having 0-2 ring nitrogens;

(c) R^1 is -halo, an optionally substituted C_{1-6} aliphatic group, phenyl, $-COR^6$, $-OR^6$, $-CN$, $-SO_2R^6$, $-SO_2NH_2$, $-N(R^6)_2$, $-CO_2R^6$, $-CONH_2$, $-NHCOR^6$, $-OC(O)NH_2$, or $-NHSO_2R^6$; and

(d) R^2 is hydrogen and R^2' is hydrogen or a substituted or unsubstituted group selected from aryl, heteroaryl, or a C_{1-6} aliphatic group, or R^2 and R^2' are taken together with their intervening atoms to form a substituted or unsubstituted benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring.

Claim 4. (Previously presented) The compound according to claim 2, wherein said compound has one or more features selected from the group consisting of:

(a) Ring C is a pyridinyl ring, optionally substituted by $-R^5$, wherein when Ring C and two adjacent substituents thereon form a bicyclic ring system, the bicyclic ring system is selected from an optionally substituted naphthyl ring;

(b) R^x is hydrogen or methyl and R^y is $-R$, $N(R^4)_2$, or $-OR$, or R^x and R^y are taken together with their intervening atoms to form a 5-7 membered unsaturated or partially unsaturated carbocyclo ring optionally substituted with -R, halo, -OR, $-C(=O)R$, $-CO_2R$, $-COCOR$, $-NO_2$, $-CN$, $-S(O)R$, $-SO_2R$, $-SR$, $-N(R^4)_2$, $-CON(R^4)_2$, $-SO_2N(R^4)_2$, $-OC(=O)R$, $-N(R^4)COR$, $-N(R^4)CO_2$ (optionally substituted C_{1-6} aliphatic), $-N(R^4)N(R^4)_2$, $-C=NN(R^4)_2$, $-C=N-OR$, $-N(R^4)CON(R^4)_2$, $-N(R^4)SO_2N(R^4)_2$, $-N(R^4)SO_2R$, or $-OC(=O)N(R^4)_2$;

(c) R^1 is -halo, a C_{1-6} haloaliphatic group, a C_{1-6} aliphatic group, phenyl, or $-CN$;

(d) R^2 is hydrogen and R^2' is hydrogen or a substituted or unsubstituted group selected from aryl, or a C_{1-6} aliphatic group, or R^2 and R^2' are taken together with

their intervening atoms to form a substituted or unsubstituted benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring; and

(e) each R^5 is independently selected from -halo, -CN, -NO₂, -N(R^4)₂, optionally substituted C₁₋₆ aliphatic group, -OR, -C(O)R, -CO₂R, -CONH(R^4), -N(R^4)COR, -SO₂N(R^4)₂, and -N(R^4)SO₂R.

Claim 5. (Previously presented) The compound according to claim 4, wherein:

(a) Ring C is a pyridinyl ring, optionally substituted by - R^5 , wherein when Ring C and two adjacent substituents thereon form a bicyclic ring system, the bicyclic ring system is selected from an optionally substituted naphthyl ring;

(b) R^x is hydrogen or methyl and R^y is -R, N(R^4)₂, or -OR, or R^x and R^y are taken together with their intervening atoms to form a 5-7 membered unsaturated or partially unsaturated carbocyclo ring optionally substituted with -R, halo, -OR, -C(=O)R, -CO₂R, -COCOR, -NO₂, -CN, -S(O)R, -SO₂R, -SR, -N(R^4)₂, -CON(R^4)₂, -SO₂N(R^4)₂, -OC(=O)R, -N(R^4)COR, -N(R^4)CO₂(optionally substituted C₁₋₆ aliphatic), -N(R^4)N(R^4)₂, -C=NN(R^4)₂, -C=N-OR, -N(R^4)CON(R^4)₂, -N(R^4)SO₂N(R^4)₂, -N(R^4)SO₂R, or -OC(=O)N(R^4)₂;

(c) R^1 is -halo, a C₁₋₆ haloaliphatic group, a C₁₋₆ aliphatic group, phenyl, or -CN;

(d) R^2 is hydrogen and R^2' is hydrogen or a substituted or unsubstituted group selected from aryl, or a C₁₋₆ aliphatic group, or R^2 and R^2' are taken together with their intervening atoms to form a substituted or unsubstituted benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring; and

(e) each R^5 is independently selected from -halo, -CN, -NO₂, -N(R^4)₂, optionally substituted C₁₋₆ aliphatic group, -OR, -C(O)R, -CO₂R, -CONH(R^4), -N(R^4)COR, -SO₂N(R^4)₂, and -N(R^4)SO₂R.

Claim 6. (Original) The compound according to claim 4, wherein said compound has one or more features selected from the group consisting of:

(a) R^x is hydrogen or methyl and R^y is methyl, methoxymethyl, ethyl, cyclopropyl, isopropyl, t-butyl, alkyl- or an optionally substituted group selected from 2-

pyridyl, 4-pyridyl, piperidinyl, or phenyl, or R^x and R^y are taken together with their intervening atoms to form a 6-membered unsaturated or partially unsaturated carbocyclo ring optionally substituted with -halo, -R, -OR, -COR, -CO₂R, -CON(R⁴)₂, -CN, or -N(R⁴)₂ wherein R is an optionally substituted C₁₋₆ aliphatic group;

(b) R^1 is -halo, a C₁₋₄ aliphatic group optionally substituted with halogen, or -CN;

(c) R^2 and R^2' are taken together with their intervening atoms to form a benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring optionally substituted with -halo, -N(R⁴)₂, -C₁₋₄ alkyl, -C₁₋₄ haloalkyl, -NO₂, -O(C₁₋₄ alkyl), -CO₂(C₁₋₄ alkyl), -CN, -SO₂(C₁₋₄ alkyl), -SO₂NH₂, -OC(O)NH₂, -NH₂SO₂(C₁₋₄ alkyl), -NHC(O)(C₁₋₄ alkyl), -C(O)NH₂, or -CO(C₁₋₄ alkyl), wherein the (C₁₋₄ alkyl) is a straight, branched, or cyclic alkyl group; and

(d) each R^5 is independently selected from -Cl, -F, -CN, -CF₃, -NH₂, -NH(C₁₋₄ aliphatic), -N(C₁₋₄ aliphatic)₂, -O(C₁₋₄ aliphatic), C₁₋₄ aliphatic, and -CO₂(C₁₋₄ aliphatic).

Claim 7. (Original) The compound according to claim 6, wherein:

(a) R^x is hydrogen or methyl and R^y is methyl, methoxymethyl, ethyl, cyclopropyl, isopropyl, t-butyl, alkyl- or an optionally substituted group selected from 2-pyridyl, 4-pyridyl, piperidinyl, or phenyl, or R^x and R^y are taken together with their intervening atoms to form a benzo ring or a partially unsaturated carbocyclo ring optionally substituted with -halo, -R, -OR, -COR, -CO₂R, -CON(R⁴)₂, -CN, or -N(R⁴)₂ wherein R is an optionally substituted C₁₋₆ aliphatic group;

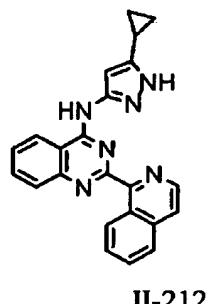
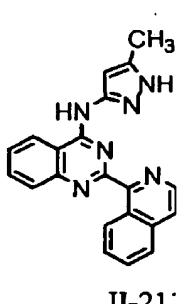
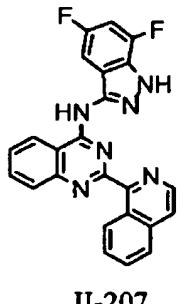
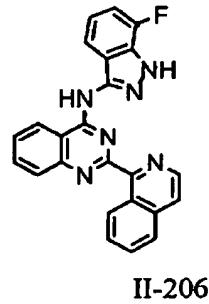
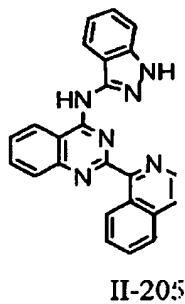
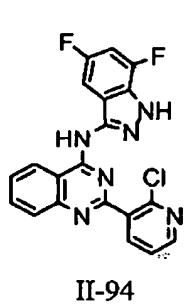
(b) R^1 is -halo, a C₁₋₄ aliphatic group optionally substituted with halogen, or -CN;

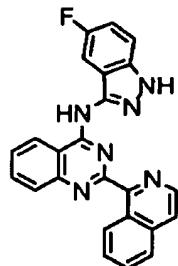
(c) R^2 and R^2' are taken together with their intervening atoms to form a benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring optionally substituted with -halo, -N(R⁴)₂, -C₁₋₄ alkyl, -C₁₋₄ haloalkyl, -NO₂, -O(C₁₋₄ alkyl), -CO₂(C₁₋₄ alkyl), -CN, -SO₂(C₁₋₄ alkyl), -SO₂NH₂, -OC(O)NH₂, -NH₂SO₂(C₁₋₄ alkyl), -NHC(O)(C₁₋₄ alkyl), -C(O)NH₂, or -CO(C₁₋₄ alkyl), wherein the (C₁₋₄ alkyl) is a straight, branched, or cyclic alkyl group; and

(d) each R^5 is independently selected from -Cl, -F, -CN, -CF₃, -NH₂, -NH(C₁₋₄ aliphatic), -N(C₁₋₄ aliphatic)₂, -O(C₁₋₄ aliphatic), C₁₋₄ aliphatic, and -CO₂(C₁₋₄ aliphatic).

Claim 8. (Original) The compound according to claim 7, wherein R^x and R^y are each methyl or R^x and R^y are taken together with the pyrimidine ring to form an optionally substituted ring selected from quinazoline or tetrahydroquinazoline, and R² and R^{2'} are taken together with the pyrazole ring to form an optionally substituted indazole ring.

Claim 9. (Previously presented) The compound according to claim 1, wherein said compound is selected from the following Table 1 compounds:





or II-213.

Claim 10. (Previously presented) A composition comprising an effective amount of a compound according to claim 1, and a pharmaceutically acceptable carrier, adjuvant, or vehicle.

Claim 11. (Previously presented) The composition according to claim 10 further comprising a second therapeutic agent selected from a treatment for Alzheimer's Disease, a treatment for Parkinson's Disease, an agent for treating Multiple Sclerosis (MS), a treatment for asthma, an anti-inflammatory agent, an immunomodulatory or immunosuppressive agent, a neurotrophic factor, an agent for treating stroke, an agent for treating cardiovascular disease, or an agent for treating diabetes.

Claims 12-13. (Canceled)

Claim 14. (Original) A method of inhibiting GSK-3 or Aurora activity in a biological sample comprising contacting said biological with the compound according to claim 1.

Claims 15-16. (Canceled).

Claim 17. (Previously presented) A method of treating diabetes in a patient in need thereof, said method comprising administering to said patient a composition according to claim 10.

Claim 18. (Canceled)

Claim 19. (Previously presented) A method of treating schizophrenia in a patient in need thereof, said method comprising administering to said patient a composition according to claim 10.

Claim 20. (Original) A method of enhancing glycogen synthesis in a patient in need thereof, which method comprises the step of administering to said patient a therapeutically effective amount of the composition according to claim 10.

Claim 21. (Original) A method of lowering blood levels of glucose in a patient in need thereof, which method comprises the step of administering to said patient a therapeutically effective amount of the composition according to claim 10.

Claims 22-25. (Canceled)

Claim 26. (Currently amended) A method of treating a cancer in a patient in need thereof, comprising the step of administering to said patient a therapeutically effective amount of the composition according to claim 10, wherein said cancer is melanoma or is selected from colon, lung, stomach, or breast cancer.

Claims 27-34. (Canceled).